

CLAIMS

1-18 (Canceled)

19. (Currently amended) A method for recording and reviewing actions performed during development of software content created using a tool on a computer system having a processor and memory, said method comprising:

receiving ~~one or more~~ user events during the development of the software content, wherein each of the user events is a low-level event generated by a peripheral device coupled to the computer system;

determining, automatically by the computer system in response to receiving the ~~one or more~~ user events, which events and sequences of events constitute actions, wherein each determined action corresponds to a change in the software content and wherein at least one of the user events, by itself, does not correspond to a change in the software content;

determining, by the computer system, whether an explanation accompanies an action;

recording the determined actions during the development of the software content if a user preference specifies that the determined actions are to be recorded; and

recording the determined explanations such that a recorded explanation of a recorded action is associated with the recorded action.

20. (Previously presented) A method as defined in claim 19, said method further comprising:

receiving a user request for playback of recorded actions;

accessing recorded actions and associated recorded explanations; and

playing back recorded actions and any associated recorded explanations.

21. (Previously presented) A method as defined in claim 19, wherein said determining whether as explanation accompanies an action includes prompting a user for an explanation with respect to an action being recorded.

22. (Canceled)

23. (Currently amended) A computer-readable storage medium having stored thereon instructions for causing a computer to perform the following method comprising:

displaying a starting state of multimedia content;
determining automatically, by the computer, which recorded actions satisfy a specified criteria, wherein each recorded action corresponds to at least one user events and wherein each recorded action corresponds to a change in the multimedia content and wherein at least one of the at least one user events, by itself, does not correspond to a change in the multimedia content;
identifying automatically, by the computer, a plurality of redundant determined recorded actions;
summarizing automatically, by the computer, the plurality of redundant determined recorded actions to generate a summarized determined recorded action;
replacing automatically, by the computer, the plurality of redundant determined recorded actions with the summarized determined recorded action; and

playing back a sequence of only those determined recorded actions in chronological order on an output device during a development of content.

24. (Currently amended) A computer-readable storage medium having stored thereon instructions for causing a computer to perform a method comprising:

- receiving a user event during a development of content;
- determining whether said received user event indicates a playback request; and
- if said received user event indicates a playback request, then
 - determining automatically, by the computer, which recorded actions to play back by determining which recorded actions meet a specified criteria, wherein each recorded action corresponds to at least one user events and wherein each recorded action corresponds to a change in the content and wherein at least one of the at least one user events, by itself, does not correspond to a change in the content,
 - identifying automatically, by the computer, a plurality of redundant determined recorded actions,
 - summarizing automatically, by the computer, the plurality of redundant determined recorded actions to generate a summarized determined recorded action,
 - replacing automatically by the computer, the plurality of redundant determined recorded actions with the summarized determined recorded action and
 - playing back those determined recorded actions and

if said received user event does not indicate a playback request,
then determining whether there is an action to record and
recording the action if it is determined that there is an action
to record during the development of the content.

25. (Currently amended) A computer-readable storage medium having stored thereon instructions for causing a computer to perform the following method comprising:

receiving a user event during a development of content;

determining whether said received user event indicates a playback request; and

if said received user event indicates a playback request, then

determining automatically, by the computer, which recorded actions to play back by determining which recorded actions meet a specified fixed criteria, said fixed criteria being selectable from a plurality of fixed criteria, wherein each recorded action corresponds to at least one user events and wherein each recorded action corresponds to a change in the content and wherein at least one of the at least one user events, by itself, does not correspond to a change in the content,

identifying automatically, by the computer, a plurality of redundant determined recorded actions,

summarizing automatically, by the computer, the plurality of redundant determined recorded actions to generate a summarized determined recorded action,

replacing automatically, by the computer, the plurality of
redundant determined recorded actions with the
summarized determined recorded action and
playing back those determined recorded actions and
if said received user event does not indicate a playback request,
then determining whether there is an action to record and
recording the action if it is determined that there is an action
to record during the development of the content.

26. (Currently amended) A computer-readable storage medium having stored thereon executable computer program instructions, the executable computer program instructions including an action class list and, when executed by a digital processing system, causing the system to perform a method for playback of actions from the action class list, wherein:

the action class list comprises a plurality of action class description fields,
each action class description field having a first field containing data which specifies a particular action class and a second field containing data which specifies a generic explanation of the action class specified in the corresponding first field,

wherein the action class list is used during playback of actions, during a development of content,

to identify, automatically, by the digital processing system, a
plurality of redundant actions, wherein each action
corresponds to at least one user events and wherein each
recorded action corresponds to a change in the content and
wherein at least one of the at least one user events, by itself,
does not correspond to a change in the content,

to summarize, automatically, by the digital processing system, the plurality of redundant actions to generate a summarized action,
to replace automatically, by the digital processing system the plurality of redundant actions with a summarized action and
to determine an explanation associated with the action class of each of the actions and to accompany the played back actions with the determined explanations.

27. (Previously Presented) A computer-readable storage medium as defined in claim 26 wherein said second field identifies a software routine capable of producing an explanation based upon properties of a recorded action.

28. (Currently amended) A method for playing back actions recorded during development of content created using a tool on a computer system having a processor, memory and an output device, the tool having a user-selectable playback initiating mechanism for initiating the playback, said method comprising:

displaying a starting state of the content; and
playing back recorded actions, during the development of the content, in chronological order on said output device, an action from said recorded actions comprising a sequence of ~~at least one~~ events, wherein said ~~at least one~~ events [[is]] are selected to constitute said action based on a preset criterion and wherein each action corresponds to a change in the content and wherein at least one of the events, by itself, does not correspond to a change in the content,

wherein a plurality of redundant actions are automatically replaced by the computer system with a summarized action and wherein the summarized action is played back instead of the plurality of redundant actions and wherein the summarized action is generated automatically by the computer system.

29. (Previously presented) The method of claim 28, wherein:

at least one action from said recorded actions is accompanied by an explanation and said playing back further comprises playing back any associated recorded explanations along with recorded actions.

30. (Currently amended) A computer-readable storage medium having stored thereon instructions for causing a computer to perform the following method comprising:

displaying a starting state of content;
playing back recorded actions, during the development of the content, in chronological order on said output device, an action from said recorded actions comprising a sequence of ~~at least one~~ events, wherein said ~~at least one~~ events [[is]] are selected to constitute said action based on a preset criterion and wherein each action corresponds to a change in the content and wherein at least one of the events, by itself, does not correspond to a change in the content, wherein a plurality of redundant actions are automatically replaced by the computer system with a summarized action and wherein the summarized action is played back instead of the plurality of redundant actions and wherein the summarized action is generated automatically by the computer system.

31. (Previously Presented) The computer-readable storage medium of claim 30, wherein:

at least one action from said recorded actions is accompanied by an explanation and said playing back further comprises playing back any associated recorded explanations along with recorded actions.

32. (Currently amended) An apparatus for playing back actions performed during development of content created using a multimedia creation tool on a computer system having a processor and memory, said apparatus comprising:

a user interface means for receiving user events, during the development of the content, receiving user requests for playback of actions and displaying recorded actions; and

a playback module coupled to said user interface module for receiving user request for playback of recorded actions and for displaying playback of recorded actions, an action from said recorded actions comprising a sequence of ~~at least one~~ events, wherein said ~~at least one~~ events ~~[[is]]~~ are selected to constitute said action based on a preset criterion and wherein each action corresponds to a change in the content and wherein at least one of the events, by itself, does not correspond to a change in the content, wherein a plurality of redundant actions is automatically replaced by the computer system with a summarized action and wherein the summarized action is played back instead of the plurality of redundant actions, said playback in response to such a user request playing back recorded actions and wherein the summarized action is generated automatically by the computer system.

33. (Previously presented) The apparatus of claim 32, wherein:

at least one action from said recorded actions is accompanied by an explanation and said playing back further comprises playing back any associated recorded explanations along with recorded actions.

34. (Previously presented) The apparatus of claim 32, wherein:

said playback is based on determining automatically which recorded actions satisfy a specified arbitrary criteria.

35. (Currently amended) A method for recording and reviewing actions performed during development of content created using a tool on a computer system having a processor and memory, said method comprising:

receiving user events, during the development of the content;
determining, automatically by the computer system in response to receiving the user events, which events and sequences of events constitute actions; and
recording the determined actions rather than recording the individual events constituting those actions, during the development of the content if a user preference specifies that the determined actions are to be recorded, wherein each action corresponds to a change in the content and wherein at least one of the events constituting an action, by itself, does not correspond to a change in the content.

36. (Currently amended) A computer-readable storage medium having stored thereon instructions for causing a computer to perform the following method comprising:

receiving user events, during a development of content;
determining, automatically by the computer in response to receiving the
user events, which events and sequences of events constitute
actions; and
recording the determined actions rather than recording the individual
events constituting those actions, during the development of the
content if a user preference specifies that the determined actions are
to be recorded, wherein each action corresponds to a change in the
content and wherein at least one of the events constituting an
action, by itself, does not correspond to a change in the content.

37. (Previously Presented) The computer-readable storage medium of claim 36,
wherein the operations further comprise:

determining whether an explanation accompanies an action; and
recording the determined explanations such that a recorded explanation
of a recorded action is associated with the recorded action if a user
preference specifies that the action is to be recorded.

38. (Previously Presented) The computer-readable storage medium of claim 36,
wherein:

said determining comprises determining which events and sequences of
events constitute actions by applying one of a plurality of
granularities, said one of a plurality of granularities being selected
based on criteria, whereby said applied one of a plurality of
granularities varies depending on the criteria.

39. (Currently amended) An apparatus for recording and reviewing actions performed during development of content created using a tool on a computer system having a processor and memory, said apparatus comprising:

- a user interface means for receiving user events which occur during development of content; and
- a recorder module comprising hardware coupled to receive user events from said user interface means, said recorder module determining automatically in response to receiving the user events which events and sequences of events constitute actions and recording those actions, if a user preference specifies that those actions are to be recorded, said recorder module capable of recording an explanation for each individual action, said explanations being recorded in a manner which associates a recorded explanation of a recorded action with the recorded action, wherein each action corresponds to a change in the content and wherein at least one of the events constituting an action, by itself, does not correspond to a change in the content.

40. (Previously Presented) The computer-readable storage medium of claim 23, wherein the specified criteria is a user specified criteria.

41. (Previously Presented) The computer-readable storage medium of claim 24, wherein the specified criteria is a user specified criteria.

42. (Previously Presented) The computer-readable storage medium of claim 25, wherein the specified fixed criteria is a user specified fixed criteria.

43. (Previously Presented) The method of claim 28, wherein the preset criterion is a user specified preset criterion.
44. (Previously Presented) The computer-readable storage medium of claim 30, wherein the preset criterion is a user specified preset criterion.
45. (Previously Presented) The apparatus of claim 32, wherein the preset criterion is a user specified preset criterion.
46. (Previously Presented) The computer-readable storage medium of claim 38, wherein the criteria is a user specified criteria.
- 47 - 57. (Canceled)
58. (New) A computer-readable storage medium which stores instructions that, when executed by a system, cause the system to perform a method as in claim 19.